



Western adds to industry's Y2K plans

by Judy Farrell

Turlock Irrigation District, a Western customer from the Sierra Nevada Region, didn't have to look far for renewable resources.

The district sells power and water, so it only had to go to its own backyard to develop a green power program for environmentally conscious customers. Called Green Valley Energy, the program is built around power produced at four small-scale hydropower plants on its extensive irrigation system in central California. As rapidly moving water speeds toward crops thirsty for irrigation, it generates up to 14.4 megawatts—enough to power 4,000 homes for a year.

"Green" power has become popular with consumers, some of whom show a willingness to pay a premium for energy produced with renewable resources. Many Western customers are meeting this need with programs that allow their own customers to purchase some or all of their energy from renewable resources.

While wind energy programs are most widespread, some utilities offer photovoltaic and biomass renewable programs. TID is the first utility in the U.S. to offer customers a 100-percent green, small-scale hydropower option.

The program began Aug. 1. It gives Turlock customers the option of supplying 100 percent of their energy needs with renewable, nonpolluting hydro-power.

During an introductory phase, which continues through Jan. 31, 2000, TID is offering Green Valley Energy to customers at no additional cost. After that, residential customers choosing to partici-

pate will pay an extra \$3.50 per month for up to 850 kilowatthours and \$6 per month for 851 kWh or more. Commercial customers will pay an additional \$8.50 per month.

Using water to generate electricity isn't a new concept for Turlock. In fact, TID has been in the retail electric business since 1923 and currently holds a two-thirds majority ownership of a 205-megawatt hydro plant at Don Pedro Dam on the Tuolumne River. TID's four small hydro plants account for 9.5 percent of its total hydroelectric capacity.

The four hydrofacilities are:

- ◆ **LaGrange:** This powerhouse dates back to 1924, though little of the original equipment remains. It was overhauled and modernized in 1989 and underwent another upgrade in 1996. While the other three plants are on the district's irrigation canal network, the LaGrange turbines are propelled by water drawn from the canal system's diversion point on the Tuolumne River. Water flows back into the river after running through the powerhouse. La Grange has a capacity of 4.5 MW.
- ◆ **Turlock Lake:** This powerplant is at the outlet gates on the district's regulating reservoir at the head of its 250-mile canal system. Energy is generated as water is released for crop irrigation. The plant's capacity is 3.3 MW.
- ◆ **Hickman:** Two turbines generate a total of 1.1 MW of energy from water dropping 17 feet in TID's Main Canal near the rural farming community of Hickman.
- ◆ **Dawson Lake:** The largest of the small hydro facilities, Dawson Lake, has a capacity of 5.5 MW. It has a bulb-type generator in which water flows around the generator and then across a turbine that looks like a giant ship's propeller. The plant's wicket gates and turbine blades adjust automatically to the flows being released from the small reservoir on the district's canal system.

The program meets the requirements of the California Energy Commission. Annual production will be reported to the CEC for accounting and accreditation.



About TID

Founded in: 1887

Service area: 425 square miles in Stanislaus and Merced counties

Number of employees: About 400

Number of electric connections: 65,000

Revenues (1998): \$106,858,000

Utility type: Irrigation District

MWh sold (1998): 1,629,086

MWh purchased from Western (1998): 80,916

Major industry served: Agriculture. TID supplies energy and water for irrigation from mid-March through mid-October.

Peak demand: 368 megawatts

Region: Sierra Nevada

Water project: Central Valley Project